Hints on the Clinical Diagnosis of Diseases of the Chest

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The method of examination is the first thing to consider, and it is most important to obtain at the outset a careful history of the patient's symptoms. In practically all pathogenic conditions the earliest manifestations are subjective, and for a considerable time symptoms may be complained of, before objective signs can be detected. In many cases it is only by carefully analysing the symptoms that an early diagnosis can be made. This applies especially to pulmonary tuberculosis, but in connection with this disease it should be noted that the history is frequently misleading, and the patient, though obviously ill, may deny or make light of his symptoms, and seem to be unwilling to assist in the forming of a diagnosis.

This is not due to euphoria, which is often present in the later stages, but apparently the patient has a dread that he may be suffering from phthisis, but is unwilling to admit the possibility, and will not acknowledge the presence of his symptoms.

Physical Examination.—To examine the chest properly the patient should be seated on a chair opposite the doctor and facing the light. He should also be stripped to the waist. It is then possible to detect asymmetry of the chest, and much easier to percuss the chest properly and to compare differences of resonance between the two sides.

The importance of carefully examining the back of the chest should be strongly emphasised, as here there is a much greater extent of lung available for examination than in front, and therefore more information to be obtained. The shoulders should be allowed to droop forward, relaxing the muscles and carrying the scapulæ to the sides. The inter-scapular regions should be carefully examined, as well as the apices and bases.

Inspection.—Any asymmetry should be noted, also the extent of the respiratory movements and the position of the apex beat. If the position of the latter is neither visible nor palpable, it should be defined by percussion and auscultation. The possibility of dextro-cardia should not be forgotten.

Palpation.—Vocal fremitus is important and should always be investigated. It may be absent in women, some of whom have soft non-vibrant voices. Rhonchal and friction fremitus can frequently be felt.

Percussion.—The resonance at the apices should be carefully compared, especially Krönig's area. The extent of resonance here varies, but if there is definite difference between the two sides it is significant. It is always advisable to determine and mark the extent of respiratory excursion at the bases.

Percussion over the upper part of the sternum should invariably be carried out. In the normal chest the sternum acts as a sounding board, and percussion over it gives a characteristic note. In cases of aneurysm and mediastinal tumours, of

whatever nature, impaired resonance or dullness over the sternum or to one side of it is usually detected, and may afford the clue to the correct diagnosis.

AUSCULTATION.—Some patients do not know how to breathe properly, and have to be shown how to fill and empty the chest. They either breathe noisily, simulating bronchial breathing, or they breathe so quietly that no respiratory sounds can be heard. Another point to bear in mind is that if there is much hair on the chest, it is necessary to smear the skin with vaseline, in order to eliminate all extraneous adventitious sounds due to this cause.

In many instances a diseased area of lung does not open up with ordinary breathing, as the bronchioles leading to the part are partially occluded, and thus no adventitious sounds are produced. Hence when the breath sounds are not clearly heard the patient should be instructed to cough; this clears the obstruction, and adventitious sounds are heard which were previously absent (post-tussive crepitations).

A further point to note is that "cog-wheel" breathing may be produced by slower expansion of diseased areas, but more commonly it is due to jerky painful inspirations or to spasmodic nervous breathing.

PLEURISY.—This term is much too loosely used, and should only be applied to cases with definite pleuritis as evidenced by friction or the presence of effusion. Pleurodynia is a much more suitable term to use for pain in the chest of doubtful ætiology. Apart from pleurisy and trauma, the most common conditions causing pain in the chest are inter-costal neuralgia and aponeurotic rheumatism.

Inter-costal neuralgia is common in young women, and the pain is frequently referred to the infra-mammary region on left side. It is generally associated with anæmia, and perhaps with leucorrhœa or some menstrual disturbance. There is often superficial tenderness. The treatment is tonic and hygienic.

Aponeurotic rheumatism is more common in middle-aged and elderly men, especially those subject to gout and allied rheumatic affections. The pain is best elicited by bringing the affected muscles into action. Deep tenderness on pressure may be present. *Treatment*—salicylates, iodides, heat, strapping, etc. This condition not infrequently affects the abdominal muscles.

Other causes of pleurodynia to be thought of are:—Herpes zoster (before the rash comes out—may be days or weeks), root pains due to pressure (new growth, spondylitis, aneurysm), or tabes. Also, of course, muscular strain or injury.

With the exception of pleurisy, these other causes of pleurodynia are usually afebrile, but occasionally one sees chronic dry pleurisy of considerable extent without temperature and sometimes without pain.

Diaphragmatic pleurisy must also be mentioned. This condition often gives rise to difficulty in diagnosis, and may simulate an acute abdomen. Severe pain is the chief complaint. It is situated in the lower part of the chest, usually along the tenth rib and extending to the sternum. It may radiate to the back and shoulder. The temperature is raised, and the patient looks ill and anxious. The respirations are hurried, but the diaphragm on the affected side is kept almost immobile. The pain is increased by coughing or by deep breathing. There may be superficial

tenderness below the costal margin, and rigidity of the upper abdominal muscles. Examination of the lung usually reveals some impairment of resonance and weaker breathing at the affected base. Occasionally a little friction may be detected at the base in front.

Pleurisy with effusion, serous or purulent, should offer no difficulty in diagnosis, as the leaden dullness and feeling of resistance found on percussion over the back of the chest is quite characteristic, and occurs in no other condition, except rarely with a large tumour. The displacement of the apex beat, the absence of vocal fremitus and of breath sounds, confirm the diagnosis.

It should be noted that bronchial or tubular breathing is at times heard over fluid, more commonly in children. In such cases the character of the dullness gives the clue to the condition, or exploratory puncture will settle the question.

Lobar Pneumonia.—The diagnosis of this disease is sometimes easy, but it may not be, as frequently the physical signs are not typical. In these latter cases the sudden onset, anxious expression, rapid respirations, fever, pain, and stained sputum, are the best guides.

Some cases, however, do not show the typical physical signs, and in these there is frequently effusion, serous or purulent, a centrally situated consolidation, a wandering or migratory pneumonia, an apical pneumonia, or a massive pneumonia.

A tuberculous pneumonia must also be considered. The onset and the course for the first week or ten days resemble ordinary lobar pneumonia, then the temperature instead of falling remains high and becomes remittent. After the tenth day softening and breaking down takes place, and tubercle bacilli are found in the sputum.

In lobar pneumonia, if the temperature does not settle down after the crisis, but rises again each evening, it generally means that a purulent effusion is present. If this be confirmed by physical examination, exploratory puncture should at once be performed to confirm the presence of empyema. If thin purulent effusion is found, aspiration may be tried, and some of the fluid removed, but operation should be delayed till the pus becomes thick, as by this time it is usually localised and shut off from the rest of the pleural cavity by adhesions, so that resection of a rib and drainage may safely be carried out.

Septic pneumonia occurs in debilitated conditions, and may follow influenza, measles, or whooping-cough; it may also follow surgical operations where there is a septic focus. It is characterised by marked toxæmia and cyanosis. The physically signs are those of capillary bronchitis, and there is no definite area of consolidation in the lung. This is a serious condition, and even if the patient makes a partial recovery, he is usually left with a pulmonary abscess.

Pulmonary Tuberculosis.—Here the early diagnosis is of extreme importance if the disease is to be cured or arrested. It has been said that the first and most important point in the diagnosis of pulmonary tubercle is to know when to expect it.

The most important symptoms are loss of strength and flesh, evening rise of temperature, cough, spit, sweating, and often dyspepsia. If phthisis is suspected, the patient should be examined at intervals till the diagnosis is definitely decided

one way or the other. The weight should be carefully kept, and the afternoon and evening temperatures noted. It is inadvisable to send the patient away to the country or seaside before the diagnosis is made, as he may return with the disease more advanced.

As regards the physical examination in early and doubtful cases, the most important point is impairment of resonance, with alteration of breath sounds and the presence of some, perhaps slight, adventitious sounds in a localised area after repeated examination. In early cases and in some fibrotic types the sputum may not be purulent and may show no tubercle bacilli.

There is one type of tubercle, hilum tuberculosis, which is fairly common, and which affords considerable difficulty in its diagnosis. In this condition the symptoms are even more indefinite. The only complaints may be dyspepsia and loss of energy. The temperature and pulse are frequently normal. The disease is very slowly progressive, and the earliest physical signs are found in the inter-scapular region :— Weak bronchial breathing, impairment of resonance, and a few fine, dry crepitations after coughing. The X-ray usually shows definite mottling.

Pulmonary abscess and bronchiectasis can be diagnosed by the history of previous illness and the presence of the very copious and often offensive sputum. Also by the effect of posture in promoting the flow of a large amount of purulent sputum from the lung. If the sputum is purulent and is over eight to ten ounces in the twenty-four hours, it suggests abscess or bronchiectasis.

PNEUMOTHORAX.—This condition is generally easy to diagnose, but occasionally it may present difficulty. If there is considerable intra-thoracic pressure, the percussion note, instead of being hyper-resonant, is a dull tympany. The position of the apex beat and absence of breath sounds suggest the diagnosis. Succussion splashing is absolutely pathognomic. The coin sound, metallic tinkling, and the hollow echo on coughing are always present in typical cases.

REVIEW

MOTHERCRAFT. By R. C. Jewesbury. 1932. London : J. & A. Churchill. pp. 170 + vii; 21 illustrations, 13 in colour. 10s. 6d. net.

ON taking up this volume one is much impressed with its scope. It opens with a chapter on the relation of mothercraft to other aspects of maternity work, by Dr. Fairbairn, followed by one on the physiology of lactation by Professor J. Mellanby. These are excellent in their comprehensiveness and conciseness. Part III of the volume is devoted to the feeding and management of infants and deals with the normal as well as with the many difficulties encountered in breast-feeding. The importance of breast-feeding is suitably stressed in accordance with the views of all who have an extensive practice and experience of infant work such as Dr. Jewesbury's. It is a pity that the section dealing with artificial feeding is confined so much to an exposition of the teaching of Truby King. The success of a system of infant feeding is judged in large measure by the number of failures rather than by the successes, as well as by the simplicity of the method advised. In the experience of many, there are just as few failures with less complicated formulæ. To those, however, who wish to use the Truby King system, Dr. Jewesbury's book will be found exceedingly useful, as he writes with a wide knowledge and a great deal of practical experience. The concluding pages are devoted to some special conditions occurring in infancy and their management. The printing is excellent, and the volume is of a convenient size.